

them is allowed, become more rich and mellow every year.—It will no doubt be interesting to many to know the weights and dimensions of the new peal, which are as follow:—

	Weights.		Dimensions.	
	cwt.	qr. lb.	feet.	inch.
Treble .....	7	2 22	2	6
Second .....	7	1 14	2	7
Third .....	8	0 2	2	8
Fourth .....	8	1 12	2	10
Fifth .....	9	2 15	3	0
Sixth .....	13	0 8	3	2½
Seventh .....	14	1 2	3	6
Eighth .....	17	3 18	3	9
Ninth .....	49	3 4	4	0
Tenth .....	25	1 10	4	3
Eleventh .....	33	3 7	4	9
Twelfth .....	33	3 9	5	5

The treble and second are the additional bells to make the peal one of twelve. The other bells, from the third to the twelfth inclusive, would form a similar peal to the old one, of ten bells. The ten lowest bells in this new peal are heavier by 2 cwt. 38lb. than the old peal, and the total weight of the new peal (including the two small bells added to the ten) makes 16 cwt. 2 qrs. 18 lbs. additional to the peal.—*Local Paper.*

#### RAILWAY INTELLIGENCE.

**York and Scarborough Railway.**—On Wednesday week, the directors of the York and North Midland Railway held a meeting at the board-room, to receive tenders for the making of 4½ miles of the Scarborough Railway and branch to Pickering. The work was divided into four sections, but the directors accepted the tender of Mr. Crawshaw.

**Leeds and Bradford Extension Line of Railway.**—Robert Stephenson, Esq., accompanied by the directors of the Leeds and Bradford Railway, and Mr. Young, the assistant engineer, visited Keighley, for the purpose of determining the point of terminus at that place, in the event of the contemplated extension of the line to Blackburn, by the Lancashire and Yorkshire junction, when it was arranged that Robert Stephenson, Esq., take an early opportunity of consulting with Mr. Vignola, the engineer of the latter company, and arrange such other matters as may eventually lead to both the companies working harmoniously together, to accomplish what may be considered eventually a line not only of local but of national importance, across the island.

**Leeds and Bradford Railway.**—This bill received the Royal assent on Thursday week. The engineer has already commenced staking out the ground; the previous consent of owners and occupiers not being required for merely surveying and taking levels, and the company only being liable to make compensation for any damage thereby occasioned. The Act contains a penalty for obstructing the company on setting out the line, or removing or in any way destroying the stakes or marks left in so doing.

**Grand Junction and the London and Birmingham Railway.**—The disputes between these two companies were brought to a most satisfactory conclusion on Wednesday week, at a meeting held at Birmingham. The value and importance to the proprietors of such an arrangement may be inferred from the fact, that an advance immediately took place of 8d. or 10d. a share on each line.

**Railway from Maestricht to Aix-la-Chapelle.**—*Venloo, June 30.*—The inhabitants of Maestricht have now hopes of obtaining a railway to Aix-la-Chapelle, with a branch to Kerkrade. A company is ready to undertake the work at its own expense, if the government will grant it the coal-mine of Kerkrade for a certain number of years. If it is true, as is affirmed, that these coal-mines cause more loss than gain to the state every year, why not give them up, and thus obtain an iron railway, which may be of great importance to Maestricht and the province of Limburgh?—*Herald.*

**The Lancaster and Carlisle Railway.**—This important national work is now fairly commenced. A satisfactory arrangement has been made between the company and the Earl of Lonsdale, upon the fair principle that a valuer should be appointed on either side, with power to name a third party; and the adjustment of terms will, therefore, be an easy matter. The first general meeting of the company was held on Friday week at Kendal. A very efficient body of directors has been appointed.

A petition from the Hull and Selby Railway Company, against the Government Railways Bill, was presented to the Lower House on Thursday week. The York and North Midland and the Manchester and Leeds Railway Companies have also petitioned against the Bill.

Preparations are in progress to commence the Whitehaven and Maryport Railway immediately.

#### AN INDIAN METHOD OF CONSTRUCTING ARCHES.

SIR.—The accompanying sketch of a semi-circular arch 22 feet in span, built at Nagpore, may prove of utility, even in this country, in the construction of bridges, domes, and other arches or vaulted buildings, being applicable in masonry or cast-iron to an arch of any dimensions. It is from a drawing and description given by Captain B. Mackintosh, of the Madras Artillery.

Fig. 1.—At the spring (A) of the arch, stones of a considerable length were used, having their inner ends cut so as to suit the curvature of the arch; six such layers were laid on each side, in the manner wherein stones are placed in the generally-termed *Egyptian arch*, the upper layer having a groove five inches wide and two inches in depth.

On arriving at this height, stones of a smaller size (B. B. B. B. B.) are made use of,

each having a groove cut in two adjoining faces two inches in depth and four inches in breadth, with corresponding projections on their opposite side.

The stones were so placed, that when a layer was completed, there appeared a channel or groove (C. C. C.) the whole length of the building, ready to receive and bind to it by their projections the next row of stones when applied.

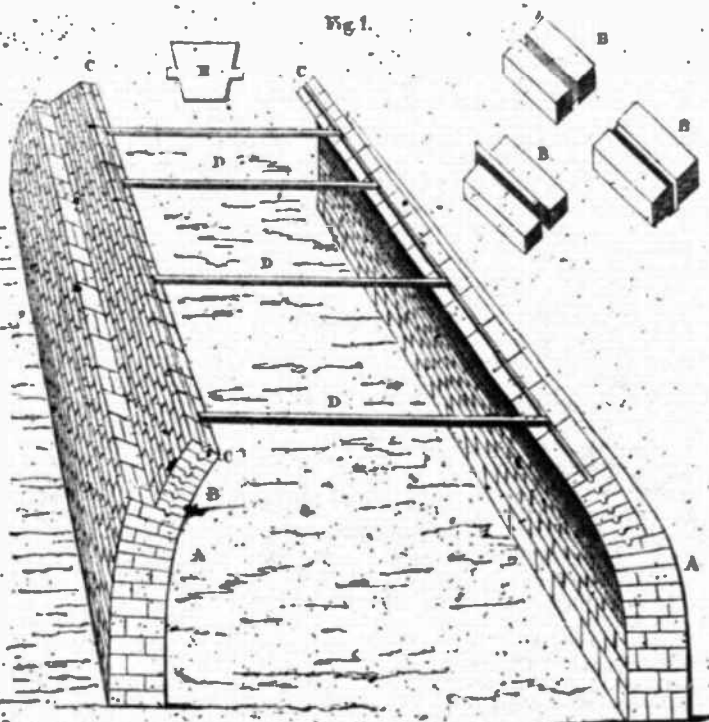
Eight layers on each side of the stones to an arch of the above span having been placed, each layer occupying about six inches of the curvature of the arch, it became necessary to prevent the work, if carried on, from falling inwards. A space of ten feet in length on each side of the unfinished arch was then marked off (see fig. 1 and 2), and at these points two strong horizontal beams were forced into the grooves (fig. 1, D. D.) extending across the chasm. From these, as from a new base,

the grooved stones already described were used. (Fig. 2, F. F.) The length of each succeeding layer contracting gradually until the application of the key-stones,

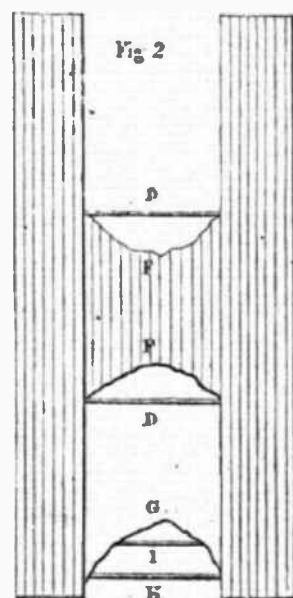
When the arch is of considerable span, a series of bases such as now described (fig. 2, I. H.) is placed, each base higher than the other, in order to support the work until it is secured by being keyed.

When the centre portions of the arch have been thus completed, the beams are removed by being sawed asunder in two places. (Fig. 2, F. G. H.) In a similar manner the arch is continued in different portions at either end of that part which is first finished; the introduction of a new beam constituting with it a renewed base; a slight scaffolding supports the workmen. No frame or centering is used for support while building of arches so constructed.

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